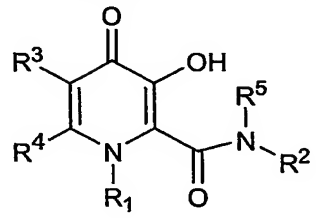
CLAIMS:

1. A 3-hydroxypyridin-4-one compound of formula I:



I

wherein:

R^1 is X with the proviso that R^2 is Y;

or

R^1 is T with the proviso that R^2 is W;

or

R^1 is X with the proviso that R^2R^5N when taken together, form a heterocyclic ring selected from piperidinyl, morpholinyl, pyrrolidinyl or piperazinyl, wherein the group piperidinyl, morpholinyl, pyrrolidinyl or piperazinyl is either unsubstituted or substituted with one to three C_1 to C_6 alkyl groups;

X is C_3-C_6 cycloalkyl;

Y is selected from the group consisting of C_3-C_6 cycloalkyl, C_1 to C_6 alkyl and C_1 to C_6 alkyl monosubstituted with a C_3-C_6 cycloalkyl;

T is C_1 to C_6 alkyl;

W is C_3-C_6 cycloalkyl;

R^3 is selected from the group consisting of hydrogen and C_1 to C_6 alkyl;

R^4 is selected from the group consisting of hydrogen and C_1 to C_6 alkyl;

R^5 is selected from the group consisting of hydrogen and C_1 to C_6 alkyl;

and/or a pharmaceutically acceptable salt thereof.

2. A compound according to claim 1 wherein R^1 is X with the proviso that R^2 is Y.

3. A compound of claim 2 wherein X is C_3-C_6 cycloalkyl, Y is C_1 to C_6 alkyl and R^5 is hydrogen or methyl.

4. A compound of claim 3 wherein X is cyclopropyl, Y is methyl, R^3 is hydrogen, R^4 is methyl and R^5 is hydrogen, said compound is 1-cyclopropyl-3-hydroxy-6-methyl-4-oxo-1,4-dihydro-pyridine-2-carboxylic acid methylamide.

5. A pharmaceutical composition comprising 1-cyclopropyl-3-hydroxy-6-methyl-4-oxo-1,4-dihydro-pyridine-2-carboxylic acid methylamide and a pharmaceutically acceptable carrier.

6. The pharmaceutical composition of claim 5 is which is adopted for oral administration.

7. A compound of claim 2 wherein X is C_3-C_6 cycloalkyl, Y is C_3-C_6 cycloalkyl and R^5 is hydrogen.

8. A compound of claim 7 wherein X is cyclopropyl, Y is cyclopropyl, R^3 is hydrogen, R^4 is methyl, said compound is *N*,1-dicyclopropyl-3-hydroxy-6-methyl-4-oxo-1,4-dihydropyridine-2-carboxamide.

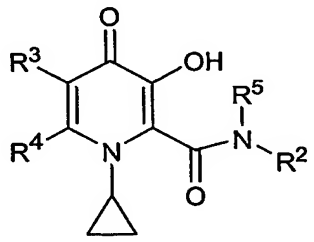
9. A compound of claim 3 wherein X is cyclopropyl, Y is methyl, R^3 is hydrogen, R^4 is methyl and R^5 is methyl, said compound is 1-cyclopropyl-3-hydroxy-*N*,*N*,6-trimethyl-4-oxo-1,4-dihydropyridine-2-carboxamide.

10. A compound according to claim 1 wherein R^1 is T with the proviso that R^2 is W.

11. A compound of claim 10 wherein T is C_1-C_6 alkyl and W is C_3-C_6 cycloalkyl.

12. A compound of claim 11 wherein T is methyl, W is cyclopropyl, R^3 is hydrogen, R^4 is methyl and R^5 is hydrogen, said compound is 3-hydroxy-1,6-dimethyl-4-oxo-1,4-dihydro-pyridine-2-carboxylic acid cyclopropylamide.

13. A 3-hydroxypyridin-4-one compound of formula IA:



IA

wherein:

R^2 is selected from the group consisting of C_3-C_6 cycloalkyl, C_1 to C_6 alkyl and C_1 to C_6 alkyl monosubstituted with a C_3-C_6 cycloalkyl;

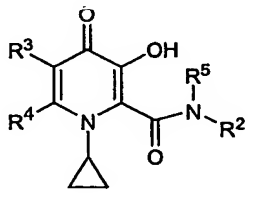
R^5 is selected from the group consisting of hydrogen and C_1 to C_6 alkyl;

R^5R^2N when taken together, form a heterocyclic ring selected from piperidinyl, morpholinyl, pyrrolidinyl or piperazinyl, wherein the group piperidinyl, morpholinyl, pyrrolidinyl or piperazinyl is either unsubstituted or substituted with one to three C_1 to C_6 alkyl groups;

R^3 is selected from the group consisting of hydrogen and C_1 to C_6 alkyl; and

R^4 is selected from the group consisting of hydrogen and C_1 to C_6 alkyl.

14. A process for the preparation of a compound of formula IA

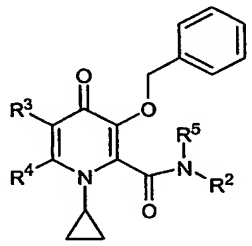


IA

wherein:

R^2 is selected from the group consisting of C_3-C_6 cycloalkyl, C_1 to C_6 alkyl and C_1 to C_6 alkyl monosubstituted with a C_3-C_6 cycloalkyl;

R^5 is selected from the group consisting of hydrogen and C_1 to C_6 alkyl;
R^5R^2N when taken together, form a heterocyclic ring selected from piperidinyl, morpholinyl, pyrrolidinyl or piperazinyl, wherein the group piperidinyl, morpholinyl, pyrrolidinyl or piperazinyl is either unsubstituted or substituted with one to three C_1 to C_6 alkyl groups;
R^3 is selected from the group consisting of hydrogen and C_1 to C_6 alkyl;
R^4 is selected from the group consisting of hydrogen and C_1 to C_6 alkyl;
which includes the step of deprotecting a benzyl group in a hydrogenation reaction of a compound of the general formula of 3-benzyloxypyridin-4-one, or its hydrochloride salt,



wherein R^2, R^5, R^5R^2N, R^3, R^4 are as defined in claim 1.

15. The process of claim 14 wherein the hydrogenation reaction is effected with palladium on charcoal or palladium hydroxide on charcoal and hydrogen in an inert solvent selected from the group consisting of methanol, ethanol and isopropanol.

16. A pharmaceutical composition comprising a compound according to claim 1 and a physiologically acceptable carrier.

17. A pharmaceutical composition according to claim 16, which is adopted for oral administration.

18. Use of a compound according to claim 1 in the manufacture of medicament in the treatment of a medical condition related to a toxic concentration of iron.